EHS–International, Inc.

February 1, 2011

Mr. Mark Adams
Site Manager
State of Washington Department of Ecology
Voluntary Cleanup Program
3190 160th Avenue SE
Bellevue, Washington 980084-5452

Re: Supplemental Environmental Investigations Results Voluntary Cleanup Program US General Services Administration Federal Center South Property (VCNW 2177).

Dear Mr. Adams:

On behalf of the US General Services Administration (GSA) and EHS – International (EHSI), we have prepared this document to respond to the October 21, 2009 State of Washington Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) Further Action requirement to appropriately address the environmental conditions within the GSA Federal Center South property, located at 4735 East Marginal Way South in Seattle, Washington 98134. The Ecology VCP Further Action letter outlined the necessary investigations needed to close data gaps concerning the distribution of petroleum hydrocarbon to the Site subsurface. More specifically, the following elements of the site characterization needed to be addressed:

- The Terrestrial Ecological Evaluation for the Site needed to be reevaluated.
- Site soils, particularly those surrounding the Site Building 1203 needed to be evaluated for the presence of gasoline- and oil-range petroleum hydrocarbons. Furthermore, Ecology VCP requested that site soils be assessed to concentrations that are protective of direct site worker contact, protective by leaching to ground water, and protective of terrestrial wildlife.
- Soil analytical data for oil-range petroleum hydrocarbons indicated that there was an exceedence of the Washington State Model Toxics Control Act (MTCA) Method A Unrestricted Land Use Cleanup Level for oil-range petroleum hydrocarbons in a soil boring adjacent to groundwater well FC9.
- Ecology VCP requested that groundwater from well FC9 be tested for oil-range petroleum hydrocarbons.
- Ecology VCP has determined that groundwater at the Site discharges directly to the Duwamish River and the highest beneficial use for ground water is protection of surface water beneficial uses. Ecology VCP requested that groundwater quality of the site be assessed to determine if it met the State of Washington requirements for surface water protection.

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EHSI executed two environmental projects during 2010 on behalf GSA in order to address the Federal Center South VCP environmental characterization data gaps. The overall goal of the work was to demonstrate to Ecology VCP that the Site petroleum hydrocarbon contamination has been remediated and that the Federal Center South areas formerly affected by petroleum hydrocarbon releases meet the Ecology VCP requirements for a NFA determination. Results from the individual environmental assessments are summarized below. The reports documenting the environmental projects are provided to Ecology VCP with this correspondence

Federal Center South Terrestrial Ecological Evaluation

The Federal Center South meets the requirements for exclusion from further evaluation using the criteria in WAC 173-340-7491 (EHSI January 2011).

U.S. General Services Administration Federal Center Soil Remediation Final Report

A summary of the U.S. General Services Administration Federal Center Soil Remediation Final Report (EHSI 2010) is presented below. A copy of the Final Report is submitted with this response letter.

GSA retained EHSI to conduct an interim soil remediation (U.S. General Services Administration Federal Center Soil Remediation) of gasoline- and oil-range petroleum hydrocarbons adjacent to and below the former Federal Center South Building 1203. Building 1203 was demolished for construction of a new office building. This report summarizes field activities and observations, analytical results, and contaminated soil disposal documentation for the Federal Center South Building 1203 Remediation.

The purpose of the U.S. General Services Administration Federal Center Soil Remediation was to remove and dispose of residual chemically-impacted soils from a 1998 removal of a 12,000-gallon unleaded gasoline underground storage tank (UST) designated UST T8 (T8) and a 1,000 gallon waste oil UST designated T7 (T7). Approximately 170 cubic yards of contaminated soil were excavated and disposed of off-site during the 1998 UST removals. An additional 350 cubic yards of contaminated soil were removed in 1999 and disposed of off-site. However, Ecology VCP in an October 2009 review noted the following facts:

- T8 Removal: No confirmation soil samples were obtained from the eastern edge of the 1998 excavation, nor were any confirmation samples obtained from the 1999 excavation. In addition, one UST removal excavation sample had 120 ppm gasoline-range petroleum hydrocarbons and a sample collected west of the UST removal excavation had 6,500 ppm gasoline-range petroleum hydrocarbons. Both samples exceeded the MTCA Method A Soil Cleanup Levels for gasoline-range petroleum hydrocarbons.

The area of suspected contamination was designated as the Northeast Excavation. EHSI field geologist observed soil staining, petroleum-like odor, and positive sheen in soils excavated from the Northeast Excavation. Groundwater was encountered at a depth of 6 feet below ground surface (bgs).

EHSI supervised the removal of 500 tons of petroleum-contaminated soils from the Northeast Excavation. Contaminated soil was hauled off-site, treated by thermal

desorption process, and disposed of as class 3 soil at the CEMEX facility in Everett, Washington.

Closure soil samples collected from the sidewalls of the Northeast Excavation were analyzed for gasoline-, diesel-, and lube oil-range TPH; VOCs; BTEX, PAHs; polychlorinated biphenyls (PCBs); and Resource Conservation & Recovery Act (RCRA) metals. Analytical results indicate the following:

- Gasoline-, Diesel-, and Lube Oil-Range TPH: No measureable concentrations of gasoline-, diesel-, or lube oil-range TPH were detected above laboratory reporting limits in any of the closure sidewall samples after the removal of contaminated soil was completed at the Northeast Excavation.
- VOCs (including BTEX): No measureable concentrations of VOCs were detected above laboratory reporting limits in any of the closure sidewall samples after the removal of contaminated soil was completed at the Northeast Excavation.
- PAHs: No measureable concentrations of PAHs were detected above laboratory reporting limits in any of the closure sidewall samples after the removal of contaminated soil was completed at the Northeast Excavation.
- PCBs: No measureable concentrations of PCBs were detected above laboratory reporting limits in any of the closure sidewall samples after the removal of contaminated soil was completed at the Northeast Excavation.
- RCRA Metals: No measureable concentrations of RCRA Metals were detected above laboratory reporting limits in any of the closure sidewall samples after the removal of contaminated soil was completed at the Northeast Excavation.

Groundwater monitoring well FC6 is located immediately west of the Northeast Excavation and was used to test ground water immediately down-gradient of the Northeast Excavation. EHSI field personnel collected groundwater samples from monitoring well FC6 following the completion of the Northeast Excavation contaminated soil removal. The groundwater samples from FC6 were analyzed for gasoline-, diesel-, and lube oil-range TPH; VOCs, PAHs, and Priority Pollutants dissolved metals. Analytical results indicate the following:

- Gasoline-Range TPH: No measureable concentrations of gasoline-range TPH was detected in the groundwater sample submitted for analysis from monitoring well FC6.
- Diesel- and Lube Oil-Range TPH: No measureable concentrations of Diesel- and Lube Oil-Range TPH were detected in the groundwater sample submitted for analysis from monitoring well FC6.
- VOCs (including BTEX): No measureable concentrations of VOCs were detected in the groundwater sample submitted for analysis from monitoring well FC6.
- PAHs: No measureable concentrations of PAHs were detected above test method reporting limits in the groundwater sample submitted for analysis from monitoring well FC6.

- Priority Pollutants Dissolved Metals: No measureable concentrations of Priority Pollutants Dissolved Metals were detected above test method reporting limits in the sample submitted for analysis from monitoring well FC6.

Based on the results and findings of the Federal Center South Building 1203 Remediation, all readily identifiable and documented chemical contamination liabilities were mitigated from the excavation area west and below the former Federal Center South Building 1203.

U.S. General Services Administration Federal Center South Supplemental Soil Characterization Soil Boring FC9 Area

A summary of the U.S. General Services Administration Federal Center South Supplemental Soil Characterization Soil Boring FC9 Area (EHSI 2010) is presented below. A copy of the Final Report is submitted with this response letter.

EHSI completed a soil and groundwater assessment of groundwater monitoring FC9, located within the asphalt-paved parking lot located west of the Federal Center South Building 1202. EHSI executed the soil characterization and groundwater well sampling project on behalf GSA in order to address the Federal Center South VCP environmental characterization data gaps.

Groundwater monitoring well FC9 was installed by Herrera Environmental Consultants as part of their *Environmental Site Assessment and Ground Water Monitoring, Federal Center South, 4735 East Marginal Way South, Seattle, Washington* (January 2000) project.

Part of the Herrera site assessment work for the project included the placement of six soil sample borings for collection of subsurface soil samples to the east of groundwater monitoring well FC9. The samples collected from the six borings were tested for diesel- to heavy oil-range petroleum hydrocarbons. There were three detections of heavy oil-range petroleum hydrocarbons. Two samples (FC9-S4-5 and FC9-S6-5) had measureable concentrations of heavy oil-range petroleum hydrocarbons of 100 and 230 mg/kg (parts per million), respectively. Sample FC9-S2-5 had a measureable concentrations of heavy oil-range petroleum hydrocarbons of 2,600 parts per million (ppm). The FC9-S2-5 sample heavy oil-range petroleum hydrocarbons concentration exceeded the MTCA Method A Soil Cleanup Levels for heavy oil-range petroleum hydrocarbons in Unrestricted Land Uses (173-340 WAC).

In order to determine if the FC9-S2-5 sample was indicative of a pocket of undocumented soil contamination, EHSI placed six soil borings around the perimeter of groundwater monitoring well FC9, (borings FC9-SB01 through FC9-SB06) with a push-probe drilling rig.

EHSI submitted soil samples from the six borings to Friedman and Bruya, Inc. (FBI) of Seattle, Washington for analyses. FBI analyzed the soil samples for the presence of diesel- to oil-range TPH by Ecology Test Method NWTPH-Diesel extended (Dx).

EHSI field personnel found no evidence of soil staining or chemical odors during field screening of soil samples collected from the soil borings. No measureable concentrations

of diesel- to oil-range TPH were detected above laboratory reporting limits (250 ppm) in the six soil samples from the FC9 area soil borings submitted for analyses.

EHSI personnel collected groundwater samples from the FC9 monitoring well. The groundwater samples were analyzed for diesel- to oil-range TPH and Polynuclear Aromatic Hydrocarbons (PAHs) in water using Test Methods NWTPH-Dx and 8270, respectively.

No measureable concentrations of diesel- to oil-range TPH were detected in the groundwater sample submitted for analysis from monitoring well FC9. No measureable concentrations of PAHs were detected above test method reporting limits in the sample collected from FC9.

In order to confirm that the FC9 area soil analytical results were a viable indication of the absence of petroleum hydrocarbon contamination, EHSI personnel utilized the Ecology MTCA Stat 97 Module to assess the soil chemical data. The Ecology MTCA Stat 97 is a statistical analysis tool for Model Toxics Control Act site cleanup work. More specifically, it is a calculating compliance statistics MS Excel spread sheet for analyzing background data. Analytical results for the six soil samples collected from borings in the area of monitoring well FC9 and that for the Herrera 2000 soil sample (FC9-S2-5) were loaded onto the Ecology MTCA Stat 97 Module. Ecology MTCA Stat 97 Module results indicated that the Uncensored Mean Value for the soil samples from the FC9 area was 585.71 ppm. In addition, the calculated Lognormal Mean Standard Deviation Median was 516.83 ppm. Statistical analyses results indicated that the probable soil heavy oil-range TPH in soils within the FC9 area were below MTCA Method A Soil Cleanup Levels for heavy oil-range petroleum hydrocarbons in Unrestricted Land Uses (2,000 ppm).

Site Work Conclusions

Soil and Groundwater within the west portion of the Federal Center South property previously impacted by gasoline and waste oil UST releases has been tested and meet the MTCA Method A Soil and Groundwater Cleanup Standards for gasoline-, diesel-, and oil-range petroleum hydrocarbons. Soil within the area of groundwater monitoring well FC9 has been re-sampled and the analytical results have been run through a statistical model. The statistical modeling results indicate that the soils in the vicinity of the groundwater monitoring well FC9 meet the MTCA Method A Soil Cleanup Levels for diesel-, to oil-range petroleum hydrocarbons in Unrestricted Land Uses.

It is EHSI's opinion that on the basis of the physical testing, the area within the northwest portion of the General Services Administration Federal Center South property formerly impacted by petroleum hydrocarbon releases meets the requirements for a No Further Action determination.

References

EHSI; *Ecology Voluntary Cleanup Program Terrestrial Ecological Evaluation Form*; January 7, 2011.

EHSI; *U.S. General Services Administration Federal Center South Soil Remediation Final Report*; October 19, 2010.

Sincerely,

Miguel A. Ortega, LG
Principal, Geologist

Enclosures